

### **REMARKS**

Applicants have carefully reviewed and considered the Office Action mailed on May 29, 2003, and the references cited therewith.

Claims 4, 8, 12, 16-17, and 23-25 have been amended. No claims have been canceled or added. As a result, claims 4-27 remain pending in this application.

For the convenience of the Examiner, Applicants' remarks concerning the specification, drawings, and claims will be presented in the same order in which the Examiner presented them in the Office Action.

### **Information Disclosure Statement Previously Submitted on March 6, 2003**

Applicants filed an Information Disclosure Statement with the U.S. Patent Office on March 6, 2003. To date, Applicants have not received the Form 1449 filed therewith and marked as being considered by the Examiner. Pursuant to the provisions of MPEP §609, Applicants request that a copy of the Form 1449, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

### **Amendments to the Specification**

On page 2, the phrase "in accordance with an embodiment of the inventive subject matter" has been added to the brief descriptions of FIGS. 1 and 4-8.

On page 3, the phrase "acoustical voice signals" has been defined as "speech". Support for the phrase "acoustical voice signals" may be found in original claims 1 and 4. Support for the word "speech" may be found in the original written description on page 1, lines 14-16, and on page 6, line 9.

No new matter has been added by way of these amendments to the specification.

### **Amendments to Claims 4, 8, 12, 16-17, and 23-25**

Claims 4, 8, 12, 16-17, and 23-25 have been amended. No new matter has been introduced.

In independent claim 4, the phrase “for translation into translated voice information” has been added. Support may be found, for example, in the original written description on page 5, lines 8-13. Also, in claim 4, as well as in independent claim 8, the phrase “detect speech” has been substituted for “receive acoustical voice signals”. Support may be found, for example, in the original written description on page 4, lines 29-30.

In independent claim 8, the phrase “and to receive electronic voice signals from the stylus” has been added. Support may be found, for example, in original claim 6.

In independent claim 12, the phrase “detecting speech” has been substituted for “receiving speech”. Support may be found, for example, in the original written description on page 4, lines 29-30.

In independent claim 16, the phrase “translated data” has been substituted for “translated text” (three occurrences), and the phrase “at least part of” has been deleted. Support for “translated data” may be found, for example, in the original written description on page 3, line 26, and on page 5, lines 8-10.

Similarly, in claims 17 and 23, the phrase “translated data” has been substituted for “translated text”.

In claim 24, the phrase “microphone on the PDA” has been substituted for “microphone built into the PDA”. Support may be found, for example, in original FIG. 1 and in the original written description on page 3, lines 14-15. Also, the phrase “that has been” has been inserted before “input” for grammatical clarification.

Similarly, in claim 25, the phrase “that has been” has been inserted before “input” for grammatical clarification.

**Objection to Specification**  
**Under 35 U.S.C. §132**

The specification was objected to under 35 U.S.C. §132 by the Examiner, who asserted that the amendment filed on February 6, 2003 introduces new matter.

Applicants’ attorney, Walter W. Nielsen, thanks the Examiner for his courtesy in accepting a telephone call on August 19, 2003, to clarify the material the Examiner specifically

objected to, namely, the addition of proposed FIGS. 7 and 8 and the proposed corresponding written description of FIGS. 7 and 8.

Applicants respectfully traverse the Examiner's objection to the inclusion of proposed FIGS. 7 and 8 for the reasons set forth in the section immediately below.

In addition, Applicants respectfully traverse the Examiner's objection to the inclusion of the proposed written description of FIGS. 7 and 8. Each statement in the proposed written description of FIGS. 7 and 8 is asserted to be (1) supported by the original application, and/or (2) describing inherent functions of elements appearing in the original application. For example, the second sentence of the description of FIG. 7, namely "The PDA 100 in this example may comprise touch screen 102, keypad inputs 104, and a microphone 106.", is fully supported as shown in Table III below.

Applicants have no intention of adding any new matter via the proposed FIGS. 7 and 8 and the corresponding written description. Applicants' purpose in submitting proposed FIGS. 7 and 8 is to comply with the Examiner's request to show every feature of the inventive subject matter specified in the claims, in order to comply with §1.83(a). Further, Applicants' purpose in submitting the proposed written description of new FIGS. 7 and 8 is to comply with §1.74, by providing a brief description of new FIGS. 7 and 8, and by providing a detailed description of new FIGS. 7 and 8 and of the parts shown therein.

Until the Examiner has reviewed and considered Applicants' arguments for the entry of proposed FIGS. 7 and 8 and the corresponding written description, Applicants respectfully request that the Examiner's requirement to cancel such subject matter be deferred. Applicants respectfully request that the objection to the specification under 35 U.S.C. §132 be withdrawn.

**Disapproval of Proposed Amendments to Drawings**  
**Under 37 C.F.R. §1.121(f)**

Applicants' proposed drawing sheets for FIGS. 7 and 8 were objected to by the Examiner, who asserted that they introduce new matter.

Information contained in any one of the specification, claims, or drawings of the application as filed may be added to any other part of the application without introducing new matter. MPEP §2163.06

Amendments to an application that are supported in the original description are not new matter. MPEP §2163.07.

By disclosing in a patent application a device that inherently performs a function or has an advantage, a patent application necessarily discloses that function, theory, or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory, or advantage without introducing prohibited new matter. MPEP §2163.07(a).

Applicants respectfully assert that there is adequate support for the proposed new FIGS. 7 and 8 in the application as originally filed. Applicants present detailed support for proposed new FIGS. 7 and 8 in the sections immediately below.

#### **Support for FIG. 7**

The Examiner, in his November 6, 2001 Office Action, objected to the drawings under 37 C.F.R. §1.83(a) for not showing every feature of the subject matter specified in the claims. In submitting proposed new FIG. 7, Applicants were attempting to comply with the Examiner's request.

Thus, proposed new FIG. 7 was submitted in Applicants' previous response in order to illustrate various elements of one embodiment of a mobile computing device such as a personal digital assistant ("PDA") 100. Original FIG. 1 represents a perspective view of an embodiment of a PDA 100, and it includes touch screen 102 (page 3, line 14), keypad inputs 104 (page 3, lines 14-15), and microphone 106 (page 3, line 15). Although original FIG. 1 doesn't illustrate other elements of an embodiment of PDA 100, the original written description adequately describes such elements, as well as how they are interconnected, to provide support for the inclusion of such elements in the embodiment shown in proposed FIG. 7. It will be understood that some of these elements did not have a corresponding reference numeral within the original written description, so they have been given a reference numeral in proposed FIG. 7 to comply with the requirements of 37 C.F.R. §1.84.

For the Examiner's convenience, Table I below lists every element of the PDA 100 illustrated in block diagram of FIG. 7, and the corresponding support in the original written description.

TABLE I

<u>Element</u>	<u>Support</u>
Touch screen 102	FIG. 1 and page 3, line 14
Keypad 104	FIG. 1 and page 3, lines 14-15
MIC 106	FIG. 1 and page 3, lines 15 and 20
Processor 140	Page 6, line 23
Memory 142	Page 1, line 15; page 3, line 27; page 6, line 20
Voice translation software 144	Page 6, lines 23-24
Tx / Rx 150	Page 5, lines 23 (as to Tx); claim 8, line 13 (as to Rx)
Link 152	Page 3, lines 22-25; page 4, lines 18-20
Link 154	Page 5, lines 12-26
Audio playback 160	Page 6, lines 6-8
Speaker 170	Page 6, lines 6-8
Power 180	Page 4, line 21

Regarding “Memory 142”, the description on page 3, line 27 and on page 6, line 20, mentions the function of memory (i.e. “store”) rather than “memory”. However, it would be readily apparent to one of ordinary skill at the time the invention was made that a “store” function implies the presence of a “memory”.

Likewise, regarding “Link 152”, the description on page 3, lines 22-25 and on page 4, lines 18- 20, mentions “communication between the stylus and the PDA” rather than a “link”. However, it would be readily apparent to one of ordinary skill at the time the invention was made that a “communication” function implies the presence of a “link”. Applicants respectfully assert a similar argument regarding “Link 154”.

Likewise, regarding “Audio playback 160”, the description on page 6, lines 6-8 mentions the “personal digital assistant will play the stored signals” rather than “audio playback”. However, it would be readily apparent to one of ordinary skill at the time the invention was made that an audio “play” function implies the presence of an “audio playback” element, i.e. an element to convert stored voice signals into analog signals.

Likewise, regarding "Speaker 170", the description on page 6, lines 6-8 mentions the "personal digital assistant will play the stored signals" rather than "speaker". However, it would be readily apparent to one of ordinary skill at the time the invention was made that an audio "play" function implies the presence of a "speaker" element to convert analog signals into audible sound. If the Examiner prefers, the functions performed by "Audio playback 160" and "Speaker 170" could be illustrated by "Audio playback 160" alone, and "Speaker 170" could be deleted.

### **Support for FIG. 8**

The Examiner, in his November 6, 2001 Office Action, objected to the drawings under 37 C.F.R. §1.83(a) for not showing every feature of the subject matter specified in the claims. In submitting proposed new FIG. 8, Applicants were attempting to comply with the Examiner's request.

Thus, proposed new FIG. 8 was submitted in Applicants' previous response in order to illustrate various elements of one embodiment of a personal computer ("PC") 200. Original FIGS. 4 and 5 illustrate PC 200 as a block, but they do not illustrate any of the constituent elements of PC 200, some of which elements are recited in Applicants' claims. For example, claim 8, as amended, recites *inter alia* a processor, speech recognition software (also referred to in original claim 8 as "voice translation software"), a wireless receiver, and a wireless transmitter.

Although original FIGS. 4 and 5 don't illustrate the various elements of an embodiment of PC 200, Applicants respectfully assert that the original written description adequately describes such elements, as well as how they are interconnected, to provide support for the inclusion of such elements in the embodiment shown in proposed FIG. 8. It will be understood that none of these elements have a corresponding reference numeral within the original written description, so they have been given a reference numeral in proposed FIG. 8 to comply with the requirements of 37 C.F.R. §1.84.

For the Examiner's convenience, Table II below lists every element of the PC 200 illustrated in block diagram of FIG. 8, and the corresponding support in the original written description.

TABLE II

<u>Element</u>	<u>Support</u>
Display 202	Inherent in any PC
Keyboard 204	Inherent in any PC
Memory 206	Inherent in any PC
Voice translation software 208	Page 5, lines 8-13 and 20-21; claim 8, lines 9-10; claim 13, line 19; claim 14, line 29
Processor 210	Inherent in any PC
Tx / Rx 212	Page 5, lines 7-13; claim 8, line 11 "transmitter";
Link 214	Page 5, lines 4-6, 12, 15; FIG. 4
Link 216	Page 5, lines 10-17 and 23-24; FIG. 4

In the case of a display 202, keyboard 204, memory 206, and processor 210, these elements are asserted to be inherent in any personal computer. As merely one example from thousands of U. S. patents that were published prior to the filing date of the present application, U.S. Pat. No. 5,721,852 (having an issue date of February 24, 1998) discloses a computer system (Figure 1) that could be a personal computer (col. 1, line 19), and which comprises a display (105, Figure 1), a keyboard (106; col. 4, lines 32-33), memories 102-104, and a processor 101.

Regarding "voice translation software", as mentioned above, this phrase appears in original claim 8, 13, and 14, as well as in the original written description on page 5, lines 8-13.

Regarding "Tx / Rx 212", support for a transmitter within PC 200 may be found, for example, on page 5, line 12, and in original claim 8, line 11. It would be readily apparent to one of ordinary skill at the time the invention was made that a "transmit" function implies the presence of a "transmitter". Support for a receiver within PC 200 may be found, for example, on page 5, line 8.

Likewise, regarding "Link 214", the description on page 5, lines 4-6, 12, 15 mentions "the stylus communicates electronic voice signals with a personal computer" rather than a "link". However, it would be readily apparent to one of ordinary skill at the time the invention was made that a "communication" function implies the presence of a "link". Applicants respectfully assert a similar argument regarding "Link 216".

In summary regarding proposed new FIGS. 7-8, Applicants assert that every element appearing in FIGS. 7 and 8, and the relationship between such elements, finds sufficient support in the application as originally filed, and they therefore do not constitute new matter, as stated in MPEP §2163.07 cited earlier. Further, Applicants respectfully assert that information contained in the specification and claims of the application as filed may be added to the drawings without introducing new matter, as stated in MPEP §2163.06 cited earlier.

For the above reasons, Applicants respectfully request the Examiner to withdraw his objection to proposed new FIGS. 7 and 8. Such figures better illustrate the inventive subject matter and are required by C.F.R. §1.83(a) in order to show every feature of the subject matter specified in the claims, as pointed out by the Examiner in the two previous Office Actions.

**Objection to Drawings**  
**Under 37 C.F.R. §1.83(a)**

The drawings were objected to by the Examiner, who asserted that they must show every feature of the inventive subject matter specified in the claims. Specifically, the Examiner asserted that “a microphone built into the PDA” must be shown or canceled from claim 24.

Regarding claim 24, Applicants have substituted the phrase “a microphone on the PDA” for the phrase “a microphone built into the PDA”. As pointed out earlier, FIG. 1 of Applicants’ original application discloses a microphone 106 on the PDA 100. Although Applicants respectfully assert that FIG. 1 provides ample support for the phrase “a microphone built into the PDA”, Applicants have amended claim 24 to reflect the fact that microphone 106 is “on the PDA”.

For the above reasons, Applicants respectfully request the Examiner to withdraw his objection to the drawings for failure to comply with §1.83(a).

**Rejection of Claims 4-27**  
**Under 35 U.S.C. §112, First Paragraph**

The Examiner rejected claims 4-27 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner asserted that the claims contain subject matter that was not described in the specification in such a way as to reasonably convey



to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner further stated that the specification as originally filed fails to teach one skilled in the art various of the claimed limitations at the time of the invention.

Table III lists each of the limitations mentioned by the Examiner followed by the location where Applicants respectfully assert adequate written support is provided in the original application, not only to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention, but also to teach one skilled in the art various of the claimed limitations at the time of the invention.

TABLE III

CLAIM	LIMITATION	SUPPORT IS PROVIDED IN ORIGINAL APPLICATION AT:
Claim 4, lines 2-3	"transmit electronic voice signals"	Page 5, lines 23-26. "Voice data" is the same as "electronic voice signals" prior to speech conversion or translation. For support, see page 5, lines 4-10.
Claim 4, lines 3-4	"a wireless receiver"	Page 5, lines 12-13.
Claim 4, lines 4-6	"display to enter information in response to physical contact";  "to visually display the translated voice information"	Original claim 4, lines 16-17; page 6, lines 12-13.  Page 3, lines 25-26; page 6, lines 16-18. The word "visually" is an inherent function of any touch screen display.
Claim 8, line 2	"speech recognition software"	Original claim 8, line 9; page 1, line 20; page 5, lines 8-10, 21, 24-25; page 6, lines 3-4, 16-17, and 21
Claim 12, line 3	"receiving speech"	Original claim 1, line 4; original claim 4, line 21; original claim 8, lines 18-19; page 1, lines 13-14; page 3, lines 16-17
Claim 16, lines 6-7	"the PC performing voice recognition"	Original claim 8, line 9; page 1, line 20; page 5, lines 8-10, 21, 24-25; page 6, lines 3-4, 16-17, and 21

Claim 16, lines 6-7, cont.	"to produce translated text"	Note, claim 16 has been amended by substituting "translated data" for "translated text". Page 5, lines 15-16, 25; original claim 8, lines 10-11.
Claim 16, lines 8-9	"the PC wirelessly transmitting the translated text"	Note, claim 16 has been amended by substituting "translated data" for "translated text". Original claim 8, line 11; original claim 14, lines 1-2 on page 10; page 5, lines 12-13, and 25.
Claim 16, line 10	"the PDA visually displaying at least part of the translated text"	Note, claim 16 has been amended by substituting "translated data" for "translated text" and by deleting "at least part of". Page 6, line 18.
Claims 17 and 22, lines 2-4	"the PC is not within communicating distance of the stylus"	Page 5, lines 17-20 and 28-30; Abstract, lines 8-11. In this entry and the next two entries in Table III, the language "within communicating distance of the stylus" is asserted to be met by the cited language within the original application, along with the fact that stylus 110 is co-located with PDA 100, as illustrated in FIG. 1
Claim 17, lines 5-6	"playing the stored electronic voice signals in place of displaying translated text on the PDA if the PC is not within communicating distance of the stylus"	Note, claim 17 has been amended by substituting "translated data" for "translated text". Page 5, line 5; page 5, line 28 through page 6, line 1; page 6, lines 6-8
Claims 17 and 22, lines 7-8 and 5-6	"when the PC is within communicating distance of the stylus"	Page 6, lines 1-4.
Claim 23, lines 4-5	"the PC performing voice recognition processing"	Original claim 8, line 9; page 1, line 20; page 5, lines 8- 10, 21, 24-25; page 6, lines 3-4, 16-17, and 21
	"to produce translated text"	Note, claim 23 has been amended by substituting "translated data" for "translated text". Page 5, lines 15-16, 25; original claim 8, lines 10-11.
Claim 23, lines 6-8	"transmitting the translated text to the PDA";	Note, claim 23 has been amended by substituting "translated data" for "translated text". Original claim 8, lines 11-14; original claim 14, lines 1-2 on page 10; page 5, lines 12-13, and 25.

Claim 23, lines 6-8, cont.	“the PDA wirelessly receiving the translated text”;  “the PDA visually displaying at least part of the translated text”	Page 5, lines 12-13; page 5, lines 24-26.  Note, claim 23 has been amended by deleting “at least part of”. Page 6, line 18.
Claim 24, lines 2-3	“a microphone built into the PDA”	Note, claim 24 has been amended by substituting “a microphone on the PDA” for “a microphone built into the PDA”. FIG. 1 and page 3, lines 15 and 20
Claim 25, lines 2-3	“a microphone located within a stylus in the immediate vicinity of the PDA”;  “voice signals from speech input into the microphone”	FIG. 2 shows microphone 120 within stylus 110. The language “in the immediate vicinity of the PDA” is asserted to be met by the fact that stylus 110 is co-located with PDA 100, as illustrated in FIG. 1 and described on page 3, lines 15-16 and 22-25  Original claim 1, lines 4-6; original claim 4, line 21; original claim 8, lines 18-19; page 1, lines 13-14; page 3, lines 16-17

For the above reasons, Applicants respectfully request that the rejection of claims 4-27 under 35 U.S.C. §112, first paragraph, be withdrawn.

**Rejection of Claims 4, 8-10, 12, and 24-25**  
**Under 35 U.S.C. §112, Second Paragraph**

Claims 4, 8-10, 12, and 24-25 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Each of the instances cited by the Examiner will now be discussed.

Regarding claim 4, lines 3-4, the Examiner asserted that the phrase “a wireless receiver to receive translated voice information from the PC” is unclear, stating it is not clear how, where, and to what the voice is translated. As mentioned earlier, in the section entitled “Amendment to

Claims 4, 8, 12, 16-17, and 23-25", claim 4 has been amended by adding the phrase "for translation into translated voice information".

Regarding claim 4, lines 10-11, the Examiner asserted that the recitation "a microphone to receive acoustical voice signals" is unclear. Claim 4 has been amended by substituting "detect speech" for "receiving acoustical voice signals". As mentioned earlier, page 3 of the specification has been amended to indicate an equivalence between "acoustical voice signals" and "speech".

Regarding claim 8, lines 5-6, the Examiner asserted that the phrase "a wireless transmitter to transmit the translated voice data" is indefinite, stating that it is unclear to where the translated voice data is transmitted. Applicants point out that claim 8, lines 8-9, recites "a wireless receiver to receive the transmitted voice data from the personal computer", and that accordingly it should be clear to where the translated voice data is transmitted.

Regarding claim 8, lines 14-15, the Examiner asserted that the phrase "a microphone to receive acoustical voice signals" is unclear. As in claim 4, claim 8 has been amended by substituting "detect speech" for "receiving acoustical voice signals".

Regarding claim 8, lines 16-17, the Examiner asserted that the phrase "a transmitter located in the housing to transmit the electronic voice signals from the microphone" is confusing. As explained on page 5, lines 4-6, of the original specification, "the stylus communicates electronic voice signals". Also, on page 4, lines 26-27 state that "the stylus can be configured to transmit electronic voice signals only while the switch is activated". Applicants respectfully assert that it would be understood by one of ordinary skill in the art that "electronic voice signals" are the electrical signals that are generated by microphone 120 when speech is detected. The term "electronic voice signals" is used in the present application to distinguish from speech or "acoustic voice signals" (refer to original claims 4 and 8, for example), which may be input into microphone 120 by a system user. To respond to the Examiner's specific question, electronic voice signals are not generated by the PC, but rather they may be translated by the processor, as instructed by speech recognition software, into translated voice data.

Regarding claims 8 and 12, lines 2-4 and 12, and lines 7-8, respectively, the Examiner asserted that the phrase "translating the electronic voice signals into translated voice data" is unclear. Again, to respond to the Examiner's specific questions, electronic voice signals may be

translated by the processor, as instructed by speech recognition software, into translated voice data. As one example, one of ordinary skill in the art will understand that a given word, e.g. "seven" spoken into microphone 120 by a system user may be converted into electronic voice signals, which may be either analog or digital signals. After the electronic voice signals are transmitted to the PC 200, the PC's processor, as instructed by speech recognition software, may translate the electronic voice signals into translated voice data. Translated voice data, in one embodiment, may be data in an electronic form in which each letter of the word "seven" is represented by a corresponding ASCII character, so that the word "seven" may be appropriately reproduced to the system user, for example on touch screen 102 of PDA 100.

Regarding claims 24 and 25, lines 2-3, the Examiner asserted that the phrase "a microphone built into the PDA outputting electronic voice signals from speech input into the microphone" is unclear. Accordingly, claims 24 and 25 have been amended for grammatical clarity, as mentioned earlier, by substituting the phrase "speech that has been input" for "speech input".

Regarding claims 8-10, lines 15-17 and 1-2, respectively, the Examiner asserted that the phrase "the electronic voice" lacks sufficient antecedent basis. Applicants respectfully point out that the phrase "electronic voice signals" in claim 8, lines 15-17, finds adequate antecedent basis in claim 8, in the language defining the "personal computer" and "stylus" elements. Likewise, in claims 9 and 10, lines 1 and 2, the phrase "electronic voice signals" finds proper antecedent basis in claim 8, as just mentioned.

For the above reasons, Applicants respectfully request that the rejection of claims 4, 8-10, 12, and 24-25 under 35 U.S.C. §112, second paragraph, be withdrawn.

**Rejection of Claims 4-8, 10-12, 14-15, 18-21 and 23-27 Under 35 U.S.C. §103(a)  
as Unpatentable over Stevens in View of Ohashi and Parvulescu**

Claims 4-8, 10-12, 14-15, 18-21 and 23-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stevens (U.S. 5,769,643) in view of Ohashi (U.S. 5,581,783) and Parvulescu (U.S. 5,724,410).

Stevens discloses an instruction communication network having a first computer 12, which may be operated by a student, and a second computer 14 operated by a teacher. The first

and second computers may be in wireless communication with each other (col. 2, lines 53-55). In one embodiment, the first computer 12 may be a personal digital assistant ("PDA") (see col. 3, lines 34-39) having a display 56, stylus 55, microphone 67, and sound circuitry 65.

Ohashi discloses a multimedia information capturing system comprising a stylus 1 (Figure 6a) having a microphone 71, a wireless transmitter 18, and a wireless receiver 75. The system additionally includes an associated "data processing unit" 3 (Figure 6b) that has a wireless transmitter 83, a wireless receiver 32, a voice-reproducing unit 83, and a speaker 84. Voice information captured with the stylus can be reproduced in the data processing unit's speaker 84. It will be noted that in Ohashi the term "voice data" is used to describe recorded acoustic voice signals, as opposed to "translated voice data" or "translated voice information" as recited in Applicants' claims.

Parvulescu discloses a voice-messaging system in which a voice-messaging terminal 20 (Figure 1) can first convert a voice message to digitized text, and then send it to a receiving terminal 70 (Figure 2). The receiving terminal 70 can display the digitized text if such receiving terminal 70 is incapable of audibly reproducing the voice message.

Applicants respectfully assert that a *prima facie* case of obviousness has not been established, and that the suggested combination of Stevens in view of Ohashi and Parvulescu is based upon hindsight and would not have been suggested but for Applicants' own disclosure.

The Examiner has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.* The MPEP §2142 contains explicit directions to the Examiner in consonance with the *In re Fine* holding:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, and not based on applicant's disclosure. (Citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)).

Regarding independent claim 4, a *prima facie* case of obviousness is not established, because the references fail to disclose all of the recited elements. None of the cited references discloses a mobile PDA having a wireless transmitter to transmit electronic voice signals to a personal computer (PC) for translation into translated voice information. The Examiner concedes that "Stevens as modified by Ohashi does not disclose translating voice data" and cites Parvulescu as teaching it is conventional for a computer system to convert voice into text and text into voice. However, in Parvulescu, voice-messaging terminal 20 (Figure 1) first converts a voice message to digitized text and then sends it to a receiving terminal 70. Parvulescu does not appear to disclose transmitting electronic voice signals to a PC for translation into translated voice information by the receiving PC. In contrast to Parvulescu's system, the system recited in claim 4 off-loads the translation of electronic voice signals into translated voice information to a PC by transmitting the electronic voice signals to the PC and receiving translated voice information from the PC.

Further, there is no motivation to combine the references, nor is there a reasonable expectation of success if the references are combined. In Stevens, stylus 55 fails to contain any internal intelligence or communication capability and is merely a "dumb" stylus. The Examiner argues that it would have been obvious to substitute the "intelligent" stylus of Stevens with that of Ohashi, "because this is an advancement for Stevens' stylus in order to capture an image and voice data with the stylus and transferring information data into the PDA of Stevens". However, Stevens already employs a built-in microphone 67 (Figure 3), so there is no motivation for adding a stylus having a microphone. Further, Stevens discloses a cordless telephone transceiver 64 (Figure 3) to conduct wireless communications between the wireless computing device 12 and the computer system 14. Thus, there is already an element in Stevens to enable wireless communication between device 12 and system 14. Thus Stevens teaches away from any combination of an "intelligent" stylus having a microphone and a transmitter.

References must be considered in their entirety, including parts that teach away from the claims. See MPEP §2141.02. If a proposed modification would render the prior art invention

being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed invention. *In re Gordon*, 733 F. 2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984), and MPEP §2143.01.

Third, even if the references were combined, there would be no reasonable expectation of success. Combining Stevens, Ohashi, and Parvulescu would not provide a system comprising a mobile PDA having a wireless transmitter to transmit electronic voice signals to a personal computer (PC) for translation into translated voice information, because this element is missing from Stevens, Ohashi, and Parvulescu.

Finally, there is no objective evidence to combine the references in the record, as required by *In re Sang Su Lee*, 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002). There is no objective evidence in the record as to why it would be obvious to combine the stylus of Ohashi with the instruction communication system of Stevens, nor why it would be further obvious to add the speech-to-text conversion capability of Parvulescu. The complete absence of objective evidence in the record fails to satisfy the explicit requirements set forth by the *In re Sang Su Lee* court. Unless some source can be cited to support these propositions, it appears the Examiner is relying solely upon his own personal knowledge, and the Examiner is thus respectfully requested to submit an affidavit as required by 37 C.F.R. §1.104(d)(2).

In summary, because Stevens and Ohashi, when combined with Parvulescu, do not teach or suggest all of the claim limitations, and because there is no motivation (or evidence in the record) to combine the references, and further because there is no reasonable expectation of success even if the references are combined, a *prima facie* case of obviousness has not been established, and independent claim 4 should be in condition for allowance. Because claims 5-7 and 18-19 depend from claim 4, these dependent claims should also be allowable, because any claim depending from a non-obvious independent claim is also allowable under 35 U.S.C. §103. See MPEP §2143.03. It is therefore respectfully requested that the rejection of claims 4-7 and 18-19 under 35 U.S.C. §103(a) as being unpatentable over Stevens in view of Ohashi and Parvulescu be withdrawn.

Regarding independent claim 8, a *prima facie* case of obviousness is not established, because the suggested combination of Stevens, Ohashi, and Parvulescu fails to disclose or even suggest, among other things, a PC having a processor, speech recognition software to instruct the



processor to translate electronic voice signals into translated voice data, a wireless receiver to receive the electronic voice signals from a stylus, and a wireless transmitter to transmit the translated voice data. In addition, the suggested combination of Stevens, Ohashi, and Parvulescu fails to disclose or even suggest a PDA having a touch screen display to enter information in response to physical contact and to display translated voice data, or a wireless receiver to receive translated voice data from the personal computer and to receive electronic voice signals from the stylus.

Parvulescu is the only applied reference that teaches speech-to-text conversion, and in the Parvulescu system, speech is converted prior to transmitting it to another device in the system, whereas in claim 8 speech is first transmitted by the stylus either to the PC directly or to the PC via the PDA before being converted to text. Further, as asserted above regarding independent claim 4, there is no objective evidence in the record to support the Examiner's suggested combination of the stylus 1 (Figure 2) of Ohashi with the wireless computing device 12 (Figure 1) of Stevens. Because claims 9-11 and 20-21 depend from claim 8, these dependent claims should also be allowable. It is therefore respectfully requested that the rejection of claims 8 and 9-11 and 20-21 under 35 U.S.C. §103(a) as being unpatentable over Stevens in view of Ohashi and Parvulescu be withdrawn.

Regarding independent claim 12, a *prima facie* case of obviousness is not established, because the suggested combination of Stevens, Ohashi, and Parvulescu fails to disclose or even suggest, among other things, transmitting electronic voice signals from a hand-held stylus to a PDA, translating the electronic voice signals into translated voice data, and storing the translated voice data in the PDA. The Examiner concedes that "Stevens as modified by Ohashi does not disclose translating voice data" and cites Parvulescu as teaching it is conventional for a computer system to convert voice into text and text into voice. However, in Parvulescu, voice-messaging terminal 20 (Figure 1) first converts a voice message to digitized text and then sends it to a receiving terminal 70. Parvulescu does not appear to disclose transmitting electronic voice signals to a PDA for translation into translated voice information and storing the translated voice data in the PDA. In contrast to the Parvulescu system, the system recited in claim 12 off-loads the translation of electronic voice signals into translated voice information, from the stylus to the

PDA, by first transmitting the electronic voice signals to the PDA and then translating the electronic voice signals in the PDA.

Further, as asserted above regarding independent claim 4, there is no objective evidence in the record to support the Examiner's suggested combination of the stylus 1 (Figure 2) of Ohashi with the wireless computing device 12 (Figure 1) of Stevens. Because claims 13-15 depend from claim 12, these dependent claims should also be allowable. It is therefore respectfully requested that the rejection of claims 12 and 13-15 under 35 U.S.C. §103(a) as being unpatentable over Stevens in view of Ohashi and Parvulescu be withdrawn.

Regarding independent claim 23, a *prima facie* case of obviousness is not established, because the suggested combination of Stevens, Ohashi, and Parvulescu fails to disclose or even suggest, among other things, a PDA wirelessly transmitting electronic voice signals to a PC, the PC receiving the electronic voice signals and performing voice recognition processing on them to produce translated data, the PC wirelessly transmitting the translated data to the PDA, and the PDA wirelessly receiving the translated data and visually displaying the translated data. The Examiner concedes that "Stevens as modified by Ohashi does not disclose translating voice data" and cites Parvulescu as teaching it is conventional for a computer system to convert voice into text and text into voice. However, in Parvulescu, voice-messaging terminal 20 (Figure 1) first converts a voice message to digitized text and then sends it to a receiving terminal 70. Parvulescu does not appear to disclose transmitting electronic voice signals from a PDA to a PC for translation into translated data, and transmitting the translated data from the PC to the PDA for visual display on the PDA. In contrast to the Parvulescu system, the system recited in claim 23 off-loads the translation of electronic voice signals into translated data, from the PDA to the PC, by first transmitting the electronic voice signals to the PC and then translating the electronic voice signals in the PC.

Further, as asserted above regarding independent claim 4, there is no objective evidence in the record to support the Examiner's suggested combination of the wireless computing device 12 (Figure 1) of Stevens with the speech-to-text conversion capability of Parvulescu. Because claims 24-27 depend from claim 23, these dependent claims should also be allowable. It is therefore respectfully requested that the rejection of claims 23 and 24-27 under 35 U.S.C. §103(a) as being unpatentable over Stevens in view of Ohashi and Parvulescu be withdrawn.

**Rejection of Claims 9, 13, 16-17 and 22 Under 35 U.S.C. §103(a)  
as Unpatentable over Ohashi in View of Stevens and Parvulescu**

Claims 9, 13, 16-17 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ohashi in view of Stevens and Parvulescu.

As pointed out above, regarding Applicants' arguments for patentability of independent claims 8 and 12, claims 9 and 13 are dependent from claims 8 and 12, respectively, and they should be patentable for the reasons set forth earlier. For this rejection, the Examiner is combining the same three references, i.e. Stevens, Ohashi, and Parvulescu. Designating Ohashi as the primary reference does not overcome the failure of the asserted combination of the three references to support a *prima facie* case of obviousness, for the same reasons Applicants presented earlier.

Regarding independent claim 16, a *prima facie* case of obviousness is not established, because the suggested combination of Ohashi, Stevens, and Parvulescu fails to disclose or even suggest, among other things, transmitting electronic voice signals from a hand-held stylus to a PC, the PC receiving the electronic voice signals and performing voice recognition processing on them to produce translated data, the PC wirelessly transmitting the translated data to a PDA, and the PDA visually displaying the translated data. The Examiner concedes that "Ohashi has failed to disclose that the PC performs voice translation into text" and cites Parvulescu as teaching it is conventional for a computer system to convert voice into text and text into voice. However, in Parvulescu, voice-messaging terminal 20 (Figure 1) first converts a voice message to digitized text and then sends it to a receiving terminal 70. Parvulescu does not appear to disclose transmitting electronic voice signals from a stylus to a PC for translation into translated data, and transmitting the translated data from the PC to a PDA for visual display on the PDA. In contrast to the Parvulescu system, the system recited in claim 16 off-loads the translation of electronic voice signals into translated data, from the stylus to the PC, by first transmitting the electronic voice signals to the PC and then translating the electronic voice signals in the PC before transmitting them to a PDA.

Further, as asserted above regarding independent claim 4, there is no objective evidence in the record to support the Examiner's suggested combination of the wireless computing device

12 (Figure 1) of Ohashi with the speech-to-text conversion capability of Parvulescu. Because claims 17-19 depend from claim 16, these dependent claims should also be allowable. It is therefore respectfully requested that the rejection of claims 16 and 17-19 under 35 U.S.C. §103(a) as being unpatentable over Ohashi in view of Stevens and Parvulescu be withdrawn.

**Conclusion**

Applicants respectfully submit that claims 4-27 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

JIM A. LARSON ET AL.

By their Representatives,

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Date Aug. 29, 2003

By Ann M. McCrackin  
Ann M. McCrackin  
Reg. No. 42,858

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service, with sufficient postage as First Class Mail, addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 29 day of August, 2003.

KACIA LEE  
Name

Kacia Lee  
Signature

**Clean Version of Pending Claims**

**POINTING DEVICE WITH INTEGRATED AUDIO INPUT**

Applicant: Jim A. Larson et al.

Serial No.: 09/211,942

- Sub  
C1  
en
4. (Twice Amended) A personal digital assistant (PDA) system comprising:  
a mobile PDA having a wireless transmitter to transmit electronic voice signals to a personal computer (PC), a wireless receiver to receive translated voice information from the PC, and a touch screen display to enter information in response to physical contact and to visually display the translated voice information; and  
a stylus including  
a housing having a first end to provide physical contact with the touch screen;  
a microphone to receive acoustical voice signals and to output electronic voice signals; and  
a transmitter located in the housing to transmit the electronic voice signals from the microphone to the mobile PDA.
- Sub  
C2  
CS
5. (Amended) The PDA system of claim 4 wherein the mobile PDA is electrically coupled via one or more wires to the stylus to receive the transmitted electronic voice signals.
6. (Amended) The PDA system of claim 4 wherein the mobile PDA receives transmitted electronic voice signals from the stylus via the wireless receiver.
7. (Amended) The PDA system of claim 4 wherein the stylus further comprises a power supply located within the housing.

8. (Amended) A system comprising:

a personal computer (PC) having a processor, speech recognition software to instruct the processor to translate electronic voice signals into translated voice data, a wireless receiver to receive the electronic voice signals, and a wireless transmitter to transmit the translated voice data;

a personal digital assistant (PDA) having a touch screen display to enter information in response to physical contact and to visually display the translated voice data, the PDA further comprising a wireless receiver to receive the transmitted translated voice data from the personal computer; and

a stylus comprising:

a housing having a first end to provide physical contact with the touch screen;

a microphone to receive acoustical voice signals and to output the electronic voice signals; and

a transmitter located in the housing to transmit the electronic voice signals from the microphone to either the PC or the PDA.

9. (Amended) The system of claim 8 wherein the stylus is to transmit the electronic voice signals to the PC via the stylus transmitter, and the PC is to transmit the translated voice data to the PDA via the PC wireless transmitter.

10. (Amended) The system of claim 8 wherein the stylus is to transmit the electronic voice signals to the PDA via the stylus transmitter, and wherein the PDA and the PC are configured for bi-directional data communication.

11. (Amended) The system of claim 8 wherein the stylus and the PDA are electrically coupled using at least one wire.

12. (Amended) A method comprising:  
receiving speech with a microphone located in a hand-held stylus and outputting electronic voice signals;  
transmitting the electronic voice signals from the hand-held stylus to a personal digital assistant (PDA); and  
translating the electronic voice signals into translated voice data and storing the translated voice data in the PDA.
13. (Amended) The method of claim 12 wherein translating the electronic voice signals comprises:  
a personal computer (PC) receiving the electronic voice signals transmitted from the hand-held stylus;  
the PC translating the electronic voice signals into translated voice data; and  
the PC transmitting the translated voice data to the PDA.
14. (Amended) The method of claim 12 wherein translating the electronic voice signals comprises:  
the PDA receiving the electronic voice signals from the hand-held stylus;  
the PDA transmitting the electronic voice signals to a personal computer (PC);  
the PC translating the electronic voice signals into translated voice data; and  
the PC transmitting the translated voice data to the PDA .
15. (Amended) The method of claim 12 wherein translating the electronic voice signals is performed with the PDA .

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16. (Amended) A method comprising:  
a stylus wirelessly transmitting electronic voice signals to a personal computer (PC);  
the PC wirelessly receiving the electronic voice signals;  
the PC performing voice recognition processing on the electronic voice signals to produce translated text;  
the PC wirelessly transmitting the translated text to a personal digital assistant (PDA);  
and  
the PDA visually displaying at least part of the translated text.

17. (Amended) The method of claim 16 further comprising:  
storing electronic voice signals on the PDA when the stylus attempts to wirelessly transmit the electronic voice signals to the PC, but the PC is not within communicating distance of the stylus;  
playing the stored electronic voice signals in place of displaying translated text on the PDA if the PC is not within communicating distance of the stylus; and  
wirelessly transmitting the electronic voice signals from the PDA to the PC, when the PC is within communicating distance of the stylus.

Sub E3  
C9

18. The PDA system of claim 4, wherein the microphone is located at a second end of the stylus.

C9

19. The PDA system of claim 4 wherein the stylus further comprises:  
a switch circuit to activate and deactivate the microphone and the transmitter of the stylus.

20. The system of claim 8, wherein the microphone is located at a second end of the stylus.



21. The system of claim 8 wherein the stylus further comprises:  
a switch circuit to activate and deactivate the microphone and the transmitter of the stylus.
22. The method of claim 16, further comprising:  
storing electronic voice signals on the PDA when the stylus attempts to wirelessly transmit the electronic voice signals to the PC, but the PC is not within communicating distance of the stylus; and  
wirelessly transmitting the electronic voice signals from the PDA to the PC, when the PC is within communicating distance of the stylus.
23. A method comprising:  
a PDA wirelessly transmitting electronic voice signals to a personal computer (PC);  
the PC wirelessly receiving the electronic voice signals;  
the PC performing voice recognition processing on the electronic voice signals to produce translated text;  
the PC wirelessly transmitting the translated text to the PDA;  
the PDA wirelessly receiving the translated text; and  
the PDA visually displaying at least part of the translated text.
24. The method of claim 23 further comprising:  
prior to the PDA wirelessly transmitting, a microphone built into the PDA outputting electronic voice signals from speech input into the microphone.

25. The method of claim 23 further comprising:  
prior to the PDA wirelessly transmitting, a microphone located within a stylus in the immediate vicinity of the PDA outputting electronic voice signals from speech input into the microphone.
26. The method of claim 25 wherein the electronic voice signals output by the microphone are wirelessly transmitted from the stylus to the PDA.
27. The method of claim 25 wherein the electronic voice signals output by the microphone are transmitted by at least one wire from the stylus to the PDA.
-

**CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS**

**POINTING DEVICE WITH INTEGRATED AUDIO INPUT**

Applicant: Jim A. Larson et al.

Serial No.: 09/211,942

The subtitle on page 1, line 5.

COPY OF PAPERS  
ORIGINALLY FILED

C1

Technical Field

The paragraph beginning on page 1, line 6.

C2

Embodiments of the present invention relate generally to input devices and, in particular, to pointer type input devices used with touch sensitive processing devices.

The subtitle on page 1, line 10.

C3

Background Information

The paragraph beginning on page 2, line 27.

C4

Figure 3 is a block diagram of circuitry of the pointing device of Figure 2;

[The paragraph beginning on page 2, line 28.]

Figure 4 illustrates one embodiment of a voice processing system;

[The paragraph beginning on page 2, line 29.]

Figure 5 illustrates another embodiment of a voice processing system; and

[The paragraph beginning on page 2, line 30.]

Figure 6 illustrates another embodiment of a voice processing system.

The subtitle on page 3, line 2.

C5

Detailed Description

[ The paragraph beginning on page 3, line 3. ]

In the following detailed description of embodiments of the invention, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration, but not of limitation, specific embodiments of the invention. These embodiments are described in sufficient detail to enable those skilled in the art to practice them, and it is to be understood that other embodiments may be utilized and that logical, mechanical and electrical changes may be made without departing from the spirit and scope of the present disclosure. The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of embodiments of the present invention is defined only by the appended claims.

[ The paragraph beginning on page 3, line 12. ]

05  
Referring to Figure 1, a personal digital assistant (PDA) having a touch screen is described. The PDA 100 is designed to be portable and allow a user to store and recall information. The computing device or PDA 100 includes a touch screen 102, keypad inputs 104, and optional microphone 106. The touch screen 102 can be controlled using a pointing device, or stylus 110. In one embodiment, the stylus 110 includes a microphone 120 receiving acoustical voice commands which are used to input data and/or control the PDA 100. It will be appreciated that the PDA 100 is typically used in a manner which positions the PDA 100 approximately 12 to 18 inches away from a user's mouth. As such, optional microphone 106 is susceptible to background noise. To reduce the effects of background noise, a microphone is provided in the stylus 110 as described in greater detail below. As illustrated in Figure 1, the stylus 110 can be tethered to the PDA 100 via a wire 109 such that the wire 109 is used for wired communication between the stylus 110 and the PDA 100. This wire is optional, such that in another embodiment the stylus communicates via wireless transmissions. The voice signals received by the stylus 110 are typically translated and displayed on the touch screen 102. The translated data is stored in the PDA 100 such that the user can retrieve the information and view the stored data. The term "personal digital assistant" (PDA) is used herein to define any mobile

Deep  
24

computing device intended to store and communicate information for use by a user. This information is typically personal in nature, such as addresses, notes, schedules and the like. The PDA 100 can include lap top computers with a touch screen. The PDA 100 can also include communication circuitry for bi-directional communication with external devices, such as fax machines and networked computers. Thus, PDA's are not limited to data storage and display devices.

5 [ The paragraph beginning on page 4, line 5. ]

One embodiment of a pointing stylus is illustrated in Figure 2. Stylus 110 includes a first end 112 having a point, and an opposite, second end 114 which includes a microphone 120. The stylus 110 is not limited to having a pointed end, and the end can be, but is not limited to, round, flat or bulbous. The stylus 110 includes a housing 122 which houses an electronic transmitter circuit. An activation switch 124 is provided to allow a user to selectively activate the microphone and transmitter circuits. The stylus 110 is intended to be hand-held and used in a manner similar to a pen. The stylus 110, however, is used to selectively contact touch screen 102 of the PDA to provide input. It will be appreciated that the stylus 110 allows a user to position the microphone 120 close to his or her mouth to increase the quality of voice signals, while reducing the effect of background noise.

[ The paragraph beginning on page 4, line 16. ]

One embodiment of circuitry provided in stylus 110 is illustrated in the block diagram of Figure 3. The circuitry includes microphone 120, a power source 130, switch 124, and a transmitter circuit 132. The transmitter circuit 132 can be configured to either transmit information to the PDA through a wire, or to transmit voice data via a wireless communications signal. If a wired embodiment is desired, power source 130 can be located in the PDA to reduce circuitry located in the stylus 110. In a wireless embodiment, however, the power source 130 is preferably a battery stored within the housing of the stylus 110. Switch 124 is used to activate

the microphone and transmitter circuits 120 and 132, respectively, to allow voice signals to be transmitted to a receiving personal computer (Refer to Figures 4 and 5). As such, the switch 124 is typically located along the housing of the stylus 110 such that it is easily activated by a finger of the user. The stylus 110 can be configured to transmit electronic voice signals only while the switch 124 is activated. Alternatively, the stylus 110 can transmit voice signals in response to a single activation of the switch 124. In this embodiment, the transmitter 132 of the stylus 110 ends the transmission when input voice signals are not detected for a predefined time period. In yet another embodiment, the switch 124 is used to both activate the transmitter 132 to start voice signal transmissions, and to deactivate the transmitter 132 to end transmissions of voice signals.

☐ The paragraph beginning on page 5, line 3, ☐

Referring to Figures 4-6, different operational embodiments are described of a voice processing system using the above described stylus 110. In a first embodiment, shown in Figure 4, the stylus 110 communicates electronic voice signals with a PC 200 and directly with PDA 100 via a touch screen. The PC 200 is a home or a business computer intended for stationary use. The PC 200 includes a wireless receiver for receiving wireless transmissions from the stylus 110. Voice signals received by the PC 200 are translated into computer recognizable or readable data. While the voice signals received by the PC 200 can be used by the PC 200 to perform more processing or other operations, it is intended, in an embodiment of the present system, that the PC 200 transmits translated voice information to the PDA 100 via wireless communication. As such, a user operating the PDA 100 activates touch screen 102 using stylus 110 and speaks into the microphone 120. The voice signals are transmitted from the stylus 110 to PC 200 where the voice signals are translated into data. The data is then transmitted from the PC 200 to the PDA 100. It will be appreciated that the physical distance between the user and the PC 200 is limited by the transmission power of the stylus transmitter 132, the PDA 100 and the PC 200. This embodiment allows mobility of the user while maintaining the processing power of the PC 200 for voice recognition.

[ The paragraph beginning on page 5, line 22. ]

OS In another embodiment shown in Figure 5, stylus 110 transmits voice data to PDA 100. The PDA transmits the received voice data to PC 200. The PC 200 then translates the received voice signals into data, and it transmits the translated data back to the PDA 100. This embodiment allows for a more powerful transmitter to be used between the PC 200 and the PDA 100, than may be available with transmitter 132 (Refer to Figure 3). In either of the first two embodiments, when the PDA 100 is located geographically away from the PC 200 such that communication between them is not possible, the PDA 100 receives voice data from the stylus 110 and records the voice data for future translation. When the PDA 100 returns to a location where communication with the PC 200 is possible, the recorded voice data is transmitted to the PC 200 for translation, and the translated data is transmitted back to the PDA 100. This option allows a user to use voice commands regardless of location relative to the PC 200. If the user retrieves the voice signals prior to translation, the PDA 100 will play the stored signals instead of displaying translated data on the screen.

On page 6, line 8, begin a new paragraph as follows:

Figure 6 illustrates an embodiment where the stylus 110 communicates with the PDA 100, and the PDA 100 performs the speech recognition operations. This embodiment allows the stylus 110 to communicate, in either a wireless or wired manner, with the PDA 100.

The paragraph beginning on page 6, line 12.

A mobile PDA has been described which allows a user to enter information using both a touch screen and voice commands. A stylus has been described which includes a microphone positioned at one end, and a transmitter for transmitting received voice signals to either a PC or the PDA. The wireless stylus also includes a power supply and an activation control switch. The PC can be used to translate the voice signals into computer recognizable data which is transmitted to the PDA for storage and display. If the user and the PDA are located remotely

CS from the receiving PC, voice signals are stored in the PDA until a later time when the PC can translate the received voice signals. This application is intended to cover any adaptations or variations of embodiments of the present invention. For example, the PDA may contain a processor and software sufficient to translate received voice signals such that the PC 200 is not necessary. As such, the stylus transmits directly to the PDA, and the PDA translates received voice signals.

[ The paragraph beginning on page 6, line 26. ]

Although specific embodiments have been illustrated and described herein, it will be appreciated by those of ordinary skill in the art that any arrangement which is calculated to achieve the same purpose may be substituted for the specific embodiment shown. Therefore, it is manifestly intended that embodiments of this invention be limited only by the claims and the equivalents thereof.

—  
The paragraph beginning on page 11, line 2.

CC A mobile personal digital assistant (PDA) allows a user to enter information using both a touch screen and voice commands with a stylus. The stylus includes a microphone positioned at one end, and a transmitter for transmitting received voice signals to either a personal computer (PC) or the PDA. In one embodiment, a wireless stylus also includes a power supply and an activation control switch. The PC is used to translate the voice signals into translated voice data which is transmitted to the PDA for storage and display. If the user and the PDA are located remotely from the receiving PC, voice signals are stored in the PDA until a later time when the PC can translate the received voice signals. Where the PDA contains a processor to translate received voice signals, the stylus transmits directly to the PDA, and the PDA translates the received voice signals.